

X<sub>1</sub> is any amino acid residue;  
X<sub>2</sub> is any amino acid residue;  
X<sub>3</sub> is a hydrophobic residue or a hydroxyl-substituted aliphatic residue;  
X<sub>4</sub> is any amino acid residue;  
X<sub>5</sub> is a hydrophobic residue or Gly;  
X<sub>6</sub> is a hydrophobic or a hydrophilic residue;  
X<sub>7</sub> is Gly, an amide-substituted polar residue or a hydrophobic residue;  
X<sub>8</sub> is an amino acid residue other than an aliphatic residue;  
X<sub>9</sub> is an aliphatic residue;  
X<sub>10</sub> is any amino acid residue;  
Z<sub>3</sub> is (i) a second peptide sequence consisting of 1 to 5 amino acid residues or  
(ii) a bond connecting Z<sub>4</sub> to X<sub>10</sub>;  
Z<sub>4</sub> is the carboxy terminus of the peptide, Z<sub>4</sub> having the formula -C(O)OR or  
-C(O)NRR;  
each R is independently hydrogen, (C<sub>1</sub>-C<sub>6</sub>) alkyl, (C<sub>2</sub>-C<sub>6</sub>) alkenyl, (C<sub>2</sub>-C<sub>6</sub>) alkynyl  
or (C<sub>6</sub>-C<sub>14</sub>) aryl;  
each "-" between residues X<sub>1</sub> through X<sub>10</sub>, Z<sub>2</sub> and X<sub>1</sub> and X<sub>10</sub> and Z<sub>3</sub>  
independently represents an amide linkage, a substituted amide linkage or an isostere  
of an amide linkage; and  
each "~" represents a bond.

Claim 2-3 (cancelled)

Claim 4 (previously presented): The compound of claim 1 wherein the  
compound exhibits antibacterial activity against a Gram-negative bacterium.

Claim 5 (currently amended): **An isolated compound which inhibits pilus  
assembly, said compound comprising SEQ ID NO: 1, wherein the compound is a  
mimic of a chaperone G<sub>1</sub> beta-strand and the compound exhibits antibacterial**

**activity against a Gram-negative bacterium.** ~~The compound of claim 4 wherein said mimic comprises SEQ ID NO: 1 or an analog thereof.~~

Claim 6 (cancelled)

Claim 7 (cancelled)

Claim 8 (previously presented): The compound of claim 1 wherein the compound comprises a mimic of an amino terminal motif of a pilus subunit selected from the group consisting of SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, SEQ ID NO: 10, SEQ ID NO: 11, SEQ ID NO: 13, SEQ ID NO: 14, SEQ ID NO: 15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22, SEQ ID NO: 23, SEQ ID NO: 24, SEQ ID NO: 25, SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 28 and SEQ ID NO: 29.

Claim 9 (currently amended): The compound of claim 8 wherein said mimic of an amino-terminal motif of a pilus subunit further comprises the amino acid sequence SDVAFRGNLL (SEQ ID NO: 12) ~~or an analog thereof.~~

Claim 10 (cancelled)

Claim 11 (cancelled)

Claim 12 (cancelled)

Claim 13 (previously presented): The compound of claim 1 wherein one or more of the following conditions are satisfied:

each "-" between residues  $X_1$  through  $X_{10}$ ,  $Z_2$  and  $X_1$  and  $X_{10}$  and  $Z_3$  is an amide linkage;

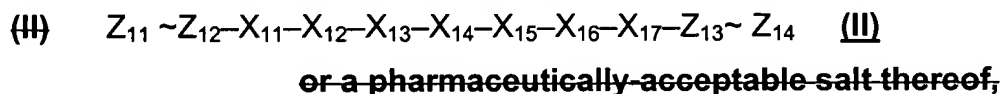
$Z_1$  is  $H_2N-$ ;

Z<sub>4</sub> is -C(O)OH or a salt thereof;  
Z<sub>2</sub> is a bond connecting Z<sub>1</sub> to X<sub>1</sub>;  
Z<sub>3</sub> is a bond connecting Z<sub>4</sub> to X<sub>10</sub>;  
X<sub>1</sub> is an amino acid residue other than a basic residue;  
X<sub>2</sub> is an amino acid residue other than an aliphatic residue;  
X<sub>3</sub> is an aliphatic residue or T;  
X<sub>4</sub> is an amino acid residue other than an acidic residue;  
X<sub>5</sub> is an aliphatic residue, F or G;  
X<sub>7</sub> is G, N or A; or  
X<sub>10</sub> is an aliphatic or a polar residue.

Claim 14 (previously presented): The compound of claim 13 wherein the mimic comprises a sequence selected from the group consisting of SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, SEQ ID NO: 10, SEQ ID NO: 11, SEQ ID NO: 13, SEQ ID NO: 14, SEQ ID NO: 15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22, SEQ ID NO: 23, SEQ ID NO: 24, SEQ ID NO: 25, SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 28 and SEQ ID NO: 29.

Claim 15 (cancelled)

Claim 16 (currently amended): An isolated compound which inhibits pilus assembly, or a pharmaceutically-acceptable salt thereof, the compound comprising a mimic of a chaperone G<sub>1</sub> beta-strand or a mimic of an amino terminal motif of a pilus subunit, wherein the mimic is a 7 to 17 residue peptide ~~or peptide analog~~, having an amino terminus and a carboxy terminus, according to formula (II):



wherein:

Z<sub>11</sub> is the amino terminus of the peptide, Z<sub>11</sub> having the formula R'-C(O)-NR'- or R'R'N-;

$Z_{12}$  is (i) a first peptide sequence consisting of 1 to 5 amino acid residues or (ii) a bond connecting  $Z_{11}$  to  $X_{11}$ ;

$X_{11}$  is any amino acid residue;

$X_{12}$  is any amino acid residue;

$X_{13}$  is a hydrophobic residue;

$X_{14}$  is any amino acid residue;

$X_{15}$  is a hydrophobic residue;

$X_{16}$  is any amino acid residue;

$X_{17}$  is hydrophobic residue or a hydroxyl-substituted aliphatic residue;

$Z_{13}$  is (i) a second peptide sequence consisting of 1 to 5 amino acid residues or (ii) a bond connecting  $Z_{14}$  to  $X_{17}$ ;

$Z_{14}$  is the carboxy terminus of the peptide,  $Z_{14}$  having the formula  $-C(O)OR'$  or  $-C(O)NR'R'$ ;

each  $R'$  is independently hydrogen,  $(C_1-C_6)$  alkyl,  $(C_2-C_6)$  alkenyl,  $(C_2-C_6)$  alkynyl or  $(C_6-C_{14})$  aryl;

each "-" between residues  $X_{11}$  through  $X_{17}$ ,  $Z_{12}$  and  $X_{11}$  and  $X_{17}$  and  $Z_{13}$  independently represents an amide linkage, a substituted amide linkage or an isostere of an amide linkage; and

each "~" independently represents a bond.

Claim 17 (previously presented): The compound of claim 16 wherein one or more of the following conditions are satisfied:

each "-" between residues  $X_{11}$  through  $X_{17}$ ,  $Z_{12}$  and  $X_{11}$  and  $X_{17}$  and  $Z_{13}$  is an amide linkage;

$Z_{11}$  is  $H_2N-$ ;

$Z_{14}$  is  $-C(O)OH$  or a salt thereof;

$Z_{12}$  is a bond connecting  $Z_{11}$  to  $X_{11}$ ;

$Z_{13}$  is a bond connecting  $Z_{14}$  to  $X_{17}$ ;

$X_{11}$  is an amino acid residue other than a basic residue;

$X_{13}$  is an aliphatic residue or M;

$X_{14}$  is an amino acid residue other than an aromatic residue;

X<sub>15</sub> is an aliphatic residue, F or M; and  
X<sub>17</sub> is an aliphatic residue, F, M or a hydroxyl-substituted aliphatic residue.

Claim 18 (cancelled)

Claim 19 (currently amended): The compound of any one of claims 1, ~~2~~, 5, 8, 9, 13, 14, 16, or 17 wherein said compound exhibits antibacterial activity against one or more Gram-negative bacterium selected from the group consisting of *E. coli*, *H. influenzae*, *S. euteriditis*, *S. typhimurium*, *B. pertussis*, *Y. pestis*, *Y. enterocolitica*, *H. pylori* and *K. pneumoniae*.

Claims 20-135 (cancelled)

Claim 136 (previously presented): An isolated compound which inhibits pilus assembly, the compound consisting of SEQ ID NO: 12.

Claim 137 (previously presented): An isolated compound which inhibits pilus assembly, the compound consisting essentially of SEQ ID NO: 12, wherein the compound is a mimic of an amino terminal motif of a pilus subunit.

Claim 138 (previously presented): An isolated compound which inhibits pilus assembly, the compound comprising a mimic of an amino terminal motif of a pilus subunit, wherein the mimic comprises SEQ ID NO:12.

Claim 139 (previously presented): The compound of claim 138 wherein the compound competitively binds to a pilus subunit hydrophobic groove.

Claim 140-158 (cancelled)

Claim 159 (**new**) The compound of claim 1 wherein the compound consists essentially of a 10 to 20 residue peptide according to formula (I).